Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Review of Part 15 and other Parts of the	)	ET Docket 01-278
Commission's Rules	)	RM-9375
	)	RM-10051

Comments of Enalasys Corporation

Enalasys Corporation, ("Enalasys"), by its attorneys, hereby files comments in the above-captioned proceeding. Enalasys is a leading manufacturer of heating Ventilation and Air Conditioning ("HVAC") diagnostic equipment using radio frequency devices regulated under Part 15 of the Commission's rules and will be directly affected by the outcome of this proceeding. Enalasys supports the Commission's proposal to amend Section 15.231(a) to remove the restriction against the transmission of data. In addition, Enalasys urges other modifications and clarifications to Section 15.231 to facilitate and promote energy conservation for the benefit of the general public.

Background

Enalasys manufactures unique diagnostic devices that are designed to measure the status and performance of virtually every aspect of HVAC systems in order to assure that such systems are operating efficiently and in a manner that promotes energy conservation. The Enalasys EscanAC system, designed to operate in the 413 MHz band, and used only by HVAC contracting and repair professionals, consists of five wireless data collection units ("DCUs") integrated into special airflow hoods. One is used for supply registers, one for return registers and one for condensing unit exhaust. A fourth DCU collects a variety of data at the condensing unit, including refrigerant temperatures and pressures. The fifth DCU, a remote sensor, measures ambient conditions in an attic or crawl space (unconditioned space) when the air handler or most of the ductwork is

located in these areas. Together, these RF components are designed to measure the energy efficiency of an HVAC system.

The EscanAC measures and computes more than 30 environmental factors that determine: whether the output of HVAC facilities comply with manufacturer specifications; the amount of heat loss in a system; the efficacy of repairs; and whether a malfunction in the system may cause health or safety issues.[1] Information from the sensors are transmitted to a transceiver located at the laptop computer which produces a printout of data and graphic representations of an HVAC's total system performance. Each sensor is queried by a 50 millisecond transmission from the laptop transmitter, and sends its data to the laptop in a 250 millisecond transmission. Significantly, the EscanAC system uses carrier sense technology so that it will not operate in the presence of other transmitting devices, thereby assuring that it does not cause interference. The EscanAC system is never in continuous operation and is used generally less than once yearly only for diagnostic purposes. It is then removed from the HVAC system and taken elsewhere.

The EscanAC system is used only by HVAC professionals. Generally, a monitoring session lasts no more than one hour with actual transmissions totaling milliseconds over the course of a monitoring session. The monitoring and measurements made by the EscanAC system are affordable and can only be made by wireless means.

Enalasys strongly supports the Commission's proposal to remove the restriction on data transmissions from Section 15.231 of the rules. The Enalasys system is one example of how this proposal will enable both manufacturers and the public to benefit from being able to make more flexible and imaginative use low power devices. Although data transmission is permitted under Section 15.231(e), the tradeoff is that the power level of devices used under this subsection must be significantly lower. For Enalasys, this means that its system would not be able to cover a sufficient area to make its devices practicable in most households. Data transmission at the higher power levels of Section

[1] These calculations include: Air flow at the condenser, outside ambient temperature and humidity, barometric pressure, intake air vapor pressure, exhaust specific humidity, air volume, air flow at each supply outlet and at each return inlet, condenser temperatures, etc.

15.231(a), however, will permit use of the Enalasys system in homes of average size and in some business environments.

In this regard Enalasys proposes that the Commission give consideration to further amending Section 15.231(a) to allow its equipment and certain other devices meeting strict criteria to be used at a higher power level than presently permitted. For instance, were the Commission to permit the EscanAC system to operate at higher power levels, it could be used at many more installations, in larger homes, businesses, and in some warehouse environments. Higher power transmission levels would apply only to devices that incorporate carrier sense technology, use infrequent very short transmissions, are non-permanent (i.e. are used on an itinerant basis) and are under the control of trained professionals. We emphasize that the EscanAC system is not a consumer device; nor is it permanently installed. Trained operators bring the equipment to a site solely to measure HVAC efficiency and then leave taking the equipment with them. During the diagnostic sessions, seldom exceeding one hour, there may be only six or seven transmissions which are of extremely short duration. In addition, as explained above, the EscanAC system uses carrier sense technology. It simply will not operate in the presence of other signals. Thus, the interference potential of the Enalasys equipment would be negligible even at higher power levels. The benefits, however, both to Enalasys and the public would be considerable.[2] Enalasys has estimated that an additional 10 dB would provide sufficient power to enable the EscanAC system to penetrate the interior walls of most typical structures.[3]

Essentially, Enalasys is asking the Commission to adopt a new, higher power class of service under Section 15.231. Eligibility would be restricted to devices used only

[2] In order that the EscanAC system may operate with additional power Enalasys has requested in WT Docket No. 01-146 that the Commission modify its proposal to permit data transmissions in the segment of the 450-470 MHz band proposed for itinerant, nationwide operation. Obviously, the outcome of that proceeding is uncertain. Enalasys believes that, in order to avoid the necessity and burden of obtaining Commission licenses for each HVAC company using its equipment, the most reasonable form of regulation would be under Part 15. In addition, were the Commission to permit the EscanAC system to operate with 10 dB of additional field strength, it would really not be necessary to be licensed for 2 watts of power.

[3] Only one of the EscanAC's transmitters (the transmitter within the air conditioning compressor hood) will be outside a structure. Transmissions within a home will be attenuated by the building.

by trained operators. Such devices could not be used permanently at any location and, in all other respects, would have to be operated pursuant to all requirements of Section 15.231. The Commission has a long and commendable history of developing special "allowances" under the Part 15 rules where professional installers are involved. Section 15.203, for example, sets forth strict antenna coupling requirements, yet relaxes these for professionally installed products; and the TV interface device rules under Section 15.115 have been interpreted to allow the output power limits to be "verified" on site by professional installers of master antenna systems.

The Commission may determine that it cannot now anticipate the various devices that may be presented for Commission certification under such a new program. In this event, Enalasys suggests that the Commission at least delegate to the Office of Engineering and Technology authority to examine on a case-by-case basis applications for devices which would operate at the higher power requested and grant waivers if the device is designed to be operated within the parameters suggested above by professional operators. In this manner, the Commission could safely permit higher power operation without concern that harmful interference will be caused.

Conclusion.

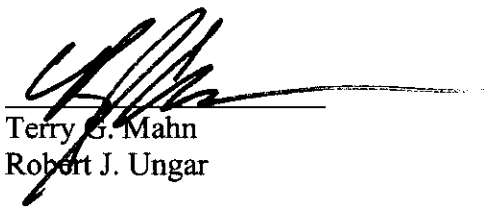
It is obvious that as our country enters another period of energy uncertainty, spiraling energy costs and increased consumption of energy, we must allow for and take advantage of new technology to make our energy use as efficient as possible. All efforts to increase energy efficiency, including federal standards, will accomplish little if the equipment designed to make use of our energy resources does not operate efficiently throughout its lifecycle. The Vice President's National Energy Policy report found that, "Heating and cooling expenses represent about 40 percent of household energy costs."[4] And, as the report explained, when fuel costs increase, as occurred dramatically in the case of natural gas, during the winter of 2000, consumers who can accommodate the cost increases at all must do so by cutting back on other needs. On a national scale the

[4] See, National Energy Policy, Report of the National Energy Policy Development Group, May 2001.

savings to be obtained from even a ten percent increase in HVAC efficiency can be immense. A simple amendment of an obscure Commission regulation could have an impact on these calculations.

Respectfully Submitted,

Enalasys Inc.



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